

USSR

KUCHKAROV, Ya. Kh., RAKHIMOVA, H., ALIMOVA, M.

"Application of Topological Semifields to the Rule of the Repeated Logarithm for Martingales"

[Tr.] Tashkent. Politekhn. In-ta [(Works) of Tashkent Polytechnical Institute], 1972, No 76, pp 154-162 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V51, by the authors).

Translation: This article is dedicated to the rule of the repeated logarithm for sequences of random processes forming a martingale and for which there is no second moment. The results produced are a generalization and refinement of certain known theorems on the repeated logarithm.

2/2 016

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0113210

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IF THE ADSORPTION ISOTHERM OF ANY SUBSTANCE AT ONE TEMP. IS KNOWN, THEN FOR ANY POINT A_{SUB1} , P_{SUB1} (A_{SUB1} IS THE AMT. OF ADSORBED SUBSTANCE AT PRESSURE P_{SUB1}) OF THIS ISOTHERM, THE CORRESPONDING TEMP. T_{SUB1} ON THE VAPOR PRESSURE TEMP. CURVE CAN BE FOUND. AFTER EXPRESSING DT_{SUB1} , DP_{SUB1} AS A TANGENT OF THE VAPOR PRESSURE DEPENDENCE AT THE POINT P_{SUB1} , T_{SUB1} , THE TERMS P_{SUB1} , T_{SUB1} , AND $DT_{SUB1}-DP_{SUB1}$ ARE INTRODUCED INTO THE CLAUSIUS-CLAPEYRON EQUATION AND THE DIFFERENTIAL HEAT OF ADSORPTION $Q_{SUBDIFF}$ CORRESPONDING TO A_{SUB1} CAN THEN BE CALCD. CALCNS. BASED ON THIS METHOD FOR THE SYSTEMS H_{SUB2} O SILICA GEL, $CCL_{SUB4}(G)$, SILICA, AND C_{SUB6} H_{SUB6} SILICA AGREE WELL WITH VALUES OF $Q_{SUBDIFF}$ OBTAINED BY CALORIMETRY.

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UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--CALCULATING DIFFERENTIAL HEATS OF ADSORPTION -U-
AUTHOR--SABIROV, SH.M., ALIMOVA, L.I. A
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD), 1970, 43(3) 673-5
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ADSORPTION, THERMODYNAMICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0280 STEP NO--U2/0040/10/043/03/0673/0675
CIRC ACCESSION NO--AP0113210
ZZZZZZZZZZZZ UNCLASSIFIED

USSR

AVAKYAN, A. A., et al, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 3-7

damaged and dead cells. Intermediate forms were also observed. Individuals could be divided into three types depending on the structure of inclusions -- amorphous-granular, striated, and crystalloid. The nature and function of such inclusions remains unknown. They are presumed to be either different stages of differentiation of the bacterium's nuclear component, or stages in development of a rickettsial phage. Further research on this species is of interest to human pathology and to studies on the evolution of the rickettsial group.

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USSR

UDC 576.851.71.013.3.016.3

AVAKYAN, A. A., GUDEN, O. S., and ALINOV, Zh. A., Institute of Epidemiology and Microbiology imeni Gerasimova, Academy of Medical Sciences USSR

"An Electron Microscope Study of 'Rickettsia canada' in Tissue Culture Cells"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 3-7

Abstract: In vitro cultivation of *R. canada*, a new Rickettsia species isolated in 1963 serologically related to the typhus group, and the bacterium's ultra-microscopic structure are described. One- or 2-day cultures of typhus-infected chick embryo fibroblasts on Medium No 199 and 10% bovine serum inoculated at 39.5°C were infected with *R. canada*. Seven days later infected cells were passaged through fresh fibroblast cultures and observed under light, fluorescent, and electron microscopes. Reproduction was confirmed by these techniques and by guinea pig tests. *R. canada* was more similar to *D. sibiricus* than other representatives of the rickettsial group with respect to dimensions, intensity of fluorescence, number of individuals per cell, and cytoplasmic distribution. It was observed in two basic forms, active and resting, similar to those described for *C. burnetii*, *R. prowazeki*, and *D. sibiricus*. The active form dominated in newly infected cells while the resting form prevailed among

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2/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AN0104548
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VERY GENERAL DESCRIPTION OF THE
SOYUZ TYPE SPACE SHIP IS GIVEN. IN SUMMING UP, THE AUTHORS STATE THAT
THE FLIGHT OF THE "SOYUZ 9" BRINGS CLOSER THE TIME OF LONG LIFE ORBITAL
STATIONS.

UNCLASSIFIED

0123

1/2 039 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--A SIGHT SEEING TOUR OF THE SOYUZ SHIP -U-
AUTHOR--DENISOV, V., ALIMOV, V.
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA, JUNE 13, 1970, P 3, COLS 1-7
DATE PUBLISHED-----70
SUBJECT AREAS--SPACE TECHNOLOGY
TOPIC TAGS--MANNED SPACECRAFT, SPACE STATION, MANNED ORBITAL
LABORATORY/(U)SOYUZ 9 MANNED SPACECRAFT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REFL/FRAME--1987/1182 STEP NO--U2/9003/70/000/000/0003/0003
CIRC ACCESSION NO--AN0104548
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--2009V70

CIRC ACCESSION NO--AP0150058

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BLOOD COAGULATION SYSTEM AND THROMBELASTOGRAM WERE STUDIED IN 50 PATIENTS WITH GASTRIC PEPTIC ULCER (42 MEN AND 8 WOMEN), AGED FROM 23 TO 82 YEARS; 27 PATIENTS WERE OVER 50 YEARS OLD. BILLROTH I OPERATION WAS PERFORMED IN 17, HOFFMEISTER-PIESTERER OPERATION, IN 33 CASES. THE BLOOD COAGULATION SYSTEM WAS STUDIED BEFORE THE OPERATION, DURING ANESTHESIA AND OPERATION, AS WELL AS ON THE 2ND-3RD, 5TH-7TH AND 10TH-12TH POSTOPERATIVE DAY. THE BLOOD COAGULATION INDICES IN MOST PATIENTS WAS WITHIN NORMAL VALUES. EITHER OXYGEN ANESTHESIA WITH THE USE OF MUSCLE RELAXANTS CAUSES AN INCREASED QUANTITY OF FIBRINOGEN, PROACCELERIN AND A REDUCTION OF THE FIBRINOLYTIC ACTIVITY. DURING GASTRIC RESECTION AND IN THE POSTOPERATIVE PERIOD (ON THE 2ND-7TH DAY) THE BLOOD COAGULATION INCREASED ACCORDING TO DATA OF COAGULOGRAPHY AND THROMBELASTOGRAPHY. ANTICOAGULANTS WERE EMPLOYED IN 20 PATIENTS (FOR THE PROPHYLAXIS OF THROMBOEMBOLIZATION) AFTER GASTRECTOMY. THE PROTHROMBIN INDEX WAS MAINTAINED ON THE LEVEL OF 40-50PERCENT OF NORM, PROCONVERTIN ON THE LEVEL OF 30-40PERCENT OF NORM. THERE WERE NO HEMORRHAGIC COMPLICATIONS ASSOCIATED WITH THE USE OF ANTICOAGULANTS. FACILITY: GOSPIITAL'NAYA KHIRURGICHESKAYA KLINIKA ANDIZHANSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--GASTROGROGRAM AND ERGASTOGRAM IN PATIENTS WITH GASTRIC PEPTIC
ULCEP -U-
AUTHOR-(C2)-ALIMOV, T.U., BRIGORIAN, N.A.
COUNTRY OF INFO--USSR *A*
SOURCE--KHURGIYA, 1970, NR 6, PP 54-57
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIGESTIVE SYSTEM DISEASE, LESION, SURGERY, BLOOD COAGULATION,
ANTICOAGULANT DRUG, PROTHROMBIN

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1023 STEP NO--UR/0531/70/000/006/0054/0057
CIRC ACCESSION NO--AP0130058
UNCLASSIFIED

2/2 017
CIRC ACCESSION NO--AP0107182

UNCLASSIFIED

PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCELERATION OF CEMENT SETTING CALLS FOR ADDNS. LEADING TO A RAPID SOLN. OF CLINKER MATERIALS THROUGH BINDING CA IONS INTO DIFFICULTLY SOL. COMPOS., PARTICULARLY ADDNS. CONTG. IONS ENTERING CRYST. HYDRATES EVENTUALLY FORMED. IN THIS CASE THE SETTING PROCESS DOES NOT DEPEND ON BINDER SOLN. AND ON SCREENING EFFECT OF FILMS FORMED ON CEMENT GRAINS. SUCH AN ADDN. IS COMPOSED OF NA ALUMINATE, K SUB2 CO SUB3, AND NA SUB2 SO SUB4 IN THE 1:0.6:0.8 RATIO. THE MIXT. IS DISSOLVED IN WATER TO A 10-11PERCENT SOLN., AND 4-5PERCENT OF THE CEMENT WT. OF THE ADDN. IS ADDED DIRECTLY TO DRY CEMENT DURING MIXING. CEMENT, THUS TREATED, SETS IN 10-30 SEC, AND ITS PROPERTIES ARE UNIMPAIRED.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--USE OF THE ADDITIVE NKA DURING NON FALSEWORK CEMENTING -U-
AUTHOR--ALIMOV, SH.S., RATINOV, V.B. A
COUNTRY OF INFO--USSR
SOURCE--PROM. STROIT, 1970, (2), 11-13
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GENERAL CONSTRUCTION, CEMENT, CHEMICAL REACTION RATE,
CATALYST, HARDNESS/(U)NKA CEMENT ADDITIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FEEL/FRAME--1989/0585 STEP NO--UR/0221/70/000/001/0011/0011
CIRC ACCESSION NO--AP0107182
UNCLASSIFIED

USSR

ALIMOV, Sh. A.

"The Use of a Comparison Algorithm in a Problem in Decision Making"

Vopr. Vychisl. i Prikl. Mat. [Problems of Computer and Applied Mathematics -- Collection of Works], No 13, Tashkent, 1972, pp 114-120 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V734, by the author).

Translation: A comparison algorithm is studied, allowing decision to be made concerning assignment of measurements to the proper object.

USSR

ALIMOV, SH. A.

"Application of a Comparison Algorithm in a Decision-Making Problem"

Vopr. Vychisl. i Prikl. Mat. [Problems of Computational and Applied Mathematics], No 16, Tashkent, 1973, pp 109-114 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V95)

Translation: Suppose it is known that the distribution of random quantity ξ belongs to one of the normal rules: $N(m_1, \sigma_1^2), \dots, N(m_n, \sigma_n^2)$; we will consider that $m_1 < \dots < m_n$. Suppose that $x_0 = -\infty < x_1 < \dots < x_n = \infty$. If observation x of ξ falls in the interval (x_{k-1}, x_k) , we assume that ξ has distribution $N(m_k, \sigma_k^2)$. This article described the search for the optimal (based on a certain minimax criterion which is dependent on a parameter) subdivision of the number line into intervals, reduced to the problem of maximization of a certain function of $(n - 1)$ variables. For $n = 2$, the problem is extended to the case when random quantity ξ is a vector quantity.

A. Bernshteyn

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USSR

UDC 532.517.4

ALIMOV, R. Z.

"Turbulent Flow of Viscous Incompressible Gas in an Anisotropic Channel Under Conditions of Preliminary Inlet Swirl"

Kazan', IVUZ Aviatsionnaya Tekhnika, No 4, 1971, pp 5-14

Abstract : The flow characteristics of a viscous incompressible gas in the initial section of a cylindrical pipe in the presence of an inlet swirl of different intensities are investigated using an analytical model. In accordance with the latter, the flow proceeds with development of two clearly marked zones: the basic near-wall zone in the form of a semi-bounded ring-shaped flow, in its turn consisting of initial, intermediate, and end sections, and the near-axial circulation zone with reverse motion of the medium. For each section of the analyzed near-wall zone, in approximation of the boundary layer, equations of impulses, moments of momentum, and flow rates were formed and reduced to a system of ordinary, non-linear differential equations of first order. On the basis of their numerical solution and using an electronic digital computer, the principles of the change of main hydrodynamic parameters by length of the pipe were determined for different degrees of initial twist. Five illustr., 26 formulas, seven biblio. refs.

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ALIMOV, R. A., et al., Meditsinskiy Zhurnal Uzbekistana, No 7, Jul 71,
pp 17-19

portions and dystrophic tumor cells in their peripheral portions. It is concluded that the NK-5 compound not only inhibits the undesirable side effects of Thio-TEPA, but also magnifies the antitumor effect of the latter.

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Pharmacology and Toxicology

USSR

ALIMOV, R. A., SHUKUROV, A., KOVALEVSKAYA, R. A., and CHERNYSHEV, V. K.,
Tashkent Scientific Research Institute of Roentgenology, Radiology, and
Oncology, Uzbek SSR Ministry of Health

"A Study of the Effects of the NK-5 Compound on the Biological Activity of
Thio-TEPA"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 7, Jul 71, pp 17-19

Abstract: Since most antitumor drugs cause serious injury to the hematopoietic system, an investigation was performed to establish whether the NK-5 compound, administered in conjunction with the antitumor drug Thio-TEPA to young rats with sarcoma-45 transplant, would suppress the untoward effects of Thio-TEPA. Peripheral blood sample analyses performed throughout the test (one month) revealed that the NK-5 compound prevented a drop in leukocyte concentration and increased hemoglobin and erythrocyte concentration. Moreover, these rats were growing significantly faster than the controls. Post-experimental histological examinations revealed small necrotic areas in the sarcoma transplants in rats treated with Thio-TEPA alone. In animals treated with Thio-TEPA and NK-5, the tumors had large necrotic areas in their central

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2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0120030
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO 8.18 G (ETD) SUB2 P(0)N:CCL
SUB2 IN DIOXANE WAS ADDED WITH ICE COOLIN 2.17 G (CH SUB2 OH) SUB2 AND
7.07 G ET SUB3 N TO YIELD AFTER 2.5 HR AT ROOM TEMP. 18PERCENT I(R
EQUALS R PRIME1 EQUALS H), B SUB0.5 121-2DEGREES, N PRIME20 SUB2 1.4520,
D PRIME20 1.2609. SIMILARLY WERE PREPD. 26.5PERCENT I(R EQUALS H, R
PRIME1 EQUALS ME), B SUB0.5 108-10DEGREES, 1.4530, 1.2343; 20.5PERCENT I
(R EQUALS R PRIME1 EQUALS ME), B SUB0.5 140-2DEGREES, 1.4560, 1.1871;
AND 23PERCENT II, B SUB0.5 128-30DEGREES, 1.4565, 1.2031. IR CURVES (2)
WERE SHOWN AND DISCUSSED. FACILITY: INST. ORG. FIZ. KHM. IM.
ARBUZOVA, KAZAN, USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREPARATION OF N,PHOSPHORYLATED 2,OXO,1,3,OXAZOLIDINES AND
6,METHYL,1,OXO,1,3,TETRAHYDROOXAZINE -U-
AUTHOR-(03)-LEVKOVA, L.N., ALIMOV, P.I., SHAGIDULLIN, R.R.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK. SSSR, SER. KHIM. 1970, (2), 369-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, KETONE, HETEROCYCLIC BASE
COMPOUND, TRIETHYLAMINE, ORGANIC OXYGEN COMPOUND, ORGANIC AZOLE COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1977/1183

STEP 01--06/09/27/00/01/00/03/00/01/01

CIRC ACCESSION NO--AP0120030

UNCLASSIFIED

USSR

UDC 547.787 + 547.867 + col.718.1

LEVKOVA, L. N., ALIMOV, P. I., and SHAGIDULLIN, R. R., Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences USSR

"Preparation of N-Phosphorylated 2-Oxo-1,3-oxazolidines and 6-Methyl-2-oxo-1,3-tetrahydrooxazine"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 396-399

Abstract: The reaction of N-diethylphosphonoiminocarbonyl chloride with ethylene glycol, 1,2-propylene glycol, 1,3-butylene glycol and 2,3-butylene glycol in the presence of triethylamine in a dioxane medium gives N-phosphorylated 2-oxo-1,3-oxazolidines and 6-methyl-3-diethylphono-2-oxo-1,3-tetrahydrooxazine.

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U.S. 3,31,95

PELOUSIA, O. A., AKHAROVA, S. I., Institute of Organic and Physical Chemistry Acad. R. 16. Arbuzov

"Method of Preparing N-Alkyl-N-(Acylaminomethyl)-Amides of Di-alkylphosphoric Acids"

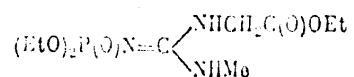
USSR Author's Certificate No 225879, filed 27 Mar 67, published 4 Jan 70 (Izob. Akad. Nauk, no 15, 10 Aug 70, Abstr. no 214663 P, by O. A. Kozlovskaya)

Summary: Compounds with general formula: $(R^1)_2P(O)(R^2)(R^3)N(R^4)C(=O)NR^5$ (I) and $(R^1)_2P(O)(R^2)(R^3)N(R^4)C(=O)NR^5$ (II), where R^1, R^2, R^3, R^4, R^5 -- alkyl, are prepared by the reaction of $(R^1)_2P(O)(R^2)(R^3)N(R^4)C(=O)NR^5$ (I) with amines of carboxylic acids or with urethanes. 0.02 mole of $(R^1)_2P(O)(R^2)(R^3)N(R^4)C(=O)NR^5$ (acid) is reacted at 150° for 4 hrs. Then the solvent is distilled off in vacuum, and the residue is redistilled, yielding I ($R^1 = Et, R^2 = Et, R^3 = Et, R^4 = Et, R^5 = Et$), yield 50%, b. p. 126-129°/0.5, n_D^{20} 1.4650, d_4^{20} 1.1329, and II modifications ($R^1 = R^2 = R^3 = Et, R^4 = Et, R^5 = Et$), yield 40.6%, b. p. 126-128°/0.5, n_D^{20} 1.4562, and d_4^{20} 1.1229. I and II can be used as pesticides.

USSR

ALIMOV, M. P., et al., Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1789-1791

For purposes of comparison, a kinetic study was also made of the hydrolysis, under the comparable conditions, of substitute *N*-phosphorylated imidoures



It was found that the presence of the hydantoin ring at the C=N bond does not significantly influence the bond breaking rate in alkaline hydrolysis.

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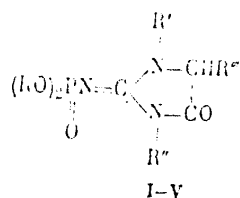
UDC 547.495+541.127+542.938

ALIMOV, M. P., BEL'SKIY, V. YE., and ~~ALIMOV, P. I.~~, Institute of Organic and Physical Chemistry imeni A. YE. Arbuzov, Academy of Sciences USSR

"Hydrolysis of N-Phosphorylated Imidohydantoins"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1789-1791

Abstract: The article describes results of a study of the hydrolytic stability of some N-phosphorylated imidohydantoins of the general formula



- (I) $R=R''=H$, $R'=R'''=H$;
 (II) $R=R''=Ph$, $R'=R'''=H$;
 (III) $R=R''=H$, $R'=R'''=H$;
 (IV) $R=R''=H$, $R'=R'''=H$;
 (V) $R=R''=H$, $R'=R'''=H$.

USSR

UDC 542.91:547.1'118

ALIMOV, P. I., LEVKOVA, L. N., ANTOKHINA, L. A., and CHEPLANOVZ, I. V.,
Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, USSR,
Academy of Sciences

"Reaction of Acid Chlorides with Dialkylphoric and Carboxylic Acid Amides"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 72,
pp 147-150

Abstract: In connection with data obtained earlier on the reactions between dialkylphosphoryl chlorides and various substituted and unsubstituted formations (P. I. ALIMOV et al), it was of interest to apply a similar approach in the case of reactions of acetyl, butyryl and benzoyl chlorides with diethylphoric acid amide, and also to the reaction of diethylphoryl chloride with acetic, butyric and benzoic acid amides, and also with formanilide.

In the case of diethylphoric acid amide, the reaction proceeds with the formation of acetamide phosphates; in the case of the other amides, and formanilide, with the formation of the ethyl ether of pyrophosphoric acid and the corresponding nitryls or phenylisonitryl.

Reaction schemes, analytical data, etc., are given.

USSR

UDC 632.95

ALIMOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., IRANDOVA, I. I., KERBABAYEV, E. B., NEKLESOVA, I. D., STERL'NIKOVA, G. N., FROLOVA, A. I.

"Insecticidal Properties of Methyl-O-Ethyl (Carbethoxymethyl) Dithiophosphonate"

Tr. VNII dezinfektsii i steriliz. (Works of the All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp, 21, t. 2, pp 73-76 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18N427)

Translation: The results of experiments in studying the insecticidal activity of $\text{Me}(\text{EtO})\text{P}(\text{S})\text{SCH}_2\text{COOEt}$ (I) (boiling point $89-92^\circ\text{C}/0.02$, n_{D}^{20} 1.5220) show that the compound has a fumigation effect and some contact action, but less than chlorophos. When applied to absorptive surfaces, the chemical is completely ineffective against household insects. Compound I has fumigatory activity against houseflies and is a larvicide against maggots. T. A. Belyayeva.

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USSR

UDC 632.95

ALIMOV, P. I., VASHKOV, V. I., VOLKOVA, A. P., ZAKOLODKINA, V. I., ZUBOVA, G. M., IRANDOVA, I. I., KERBABYEV, E. B., NEKLESOVA, I. L., STREL'NIKOVA, G. N., and FROLOVA, A. I.

"Insecticidal Properties of O-Methyl-O-Dichlorovinyl-N-Dimethyl Amidophosphate"

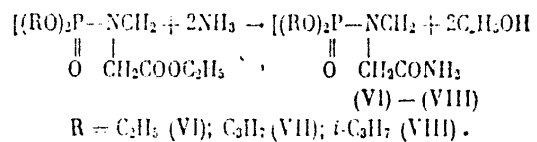
Tr. VNII dezinfektsii i steriliz. (Works of the All Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 68-73 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18N423)

Translation: The substance of formula $(\text{MeO})\text{Me}_2\text{NP}(\text{O})\text{OCH}=\text{CCl}_2$ (I) has strong contact, fumigation and intestinal action at the instant of application on houseflies, bedbugs and red cockroaches; the agent is not as strong as other organophosphorus insecticides with respect to mosquitoes. The most active form for application to a glass surface is a water emulsion prepared from compound I with OP-7 (1:1) and a solution in acetone. An alcohol solution is considerably less active. An investigation is made of the larvicidal activity of compound I. The insecticide has no residual effect. T. A. Belyayeva.

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FEDOROVA, O. N., and ALIMOV, P. I., *Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya*, No 11, 1972, pp 2623-2624



The constants and yields of the synthesized compounds are tabulated, and the results of analyzing the infrared spectra are presented.

USSR

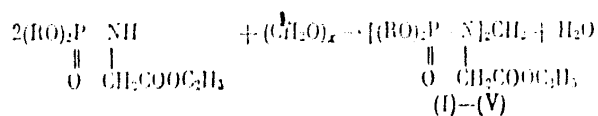
UDC 542.91:547.1'118

FEDOROVA, O. N., ALIMOV, P. I., Institute of Organic and Physical Chemistry
 imeni A. Ye. Arbuzov of the USSR Academy of Sciences

"Reaction of N-carbethoxymethylamides of dialkylphosphoric Acids with Paraform"

Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Khimicheskaya, No 11, 1972,
 pp 2623-2624

Abstract: The reaction of N-carbethoxymethylamides of dialkylphosphoric acids with paraform which yields methylenebis-(N-dialkoxyphosphoryl-N-carbethoxymethylamines



R = CH₃ (I); C₂H₅ (II); C₄H₉ (III); t-C₄H₉ (IV); C₆H₅ (V)

is described. The reaction takes place analogously with formaline. Methylenebis(N-dialkoxyphosphoryl-N-carbethoxymethylamines) react with an aqueous ammonia solution to form methylenebis-N-dialkoxyphosphoryl-N-carbaminomethylamines)

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USSR

UDC 542.91:547.1'118

ANTOKHINA, L. A., ALIMOV, P. I., Institute of Organic and Physical Chemistry
imeni A. Ye. Arbuzov, Soviet Academy of Sciences

"Some Reactions of Dichloromethylenamides of Dialkylphosphoric Acids"

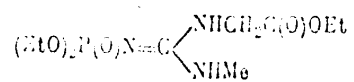
Moscow, Izv. An SSSR: Ser. Khimicheskaya, No 3, Mar 73, pp 618-621

Abstract: The paper is a report on continuation of research on reactions of dichloromethylenamides of dialkylphosphoric acids with compounds containing a mobile hydrogen atom, specifically water, formamides and amines. It was found that the action of water on dichloromethylenamidophosphates in the presence of triethylamine produces dialkylphosphoric acid amides; when formamide reacts with the same dichlorides, the result is isocyanatophosphoric acid esters. When formamide, methylformamide or water is reacted with N-phosphorylated iminocarbamic acid chlorides, apparently the corresponding N-phosphorylated iminocarbamic acids are formed as intermediate products with subsequent rearrangement into N-phosphorylated ureas.

USSR

ALIMOV, M. P., et al., Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71,
pp 1789-1791

For purposes of comparison, a kinetic study was also made of the hydrolysis,
under the comparable conditions, of substitute N-phosphorylated imidoures



It was found that the presence of the hydantoin ring at the C=N bond does
not significantly influence the bond breaking rate in alkaline hydrolysis.

USSR

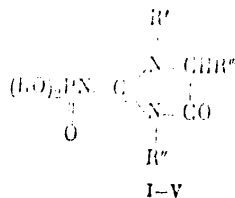
UDC 547.495+541.127+542.938

ALIMOV, M. P., BEL'SKIY, V. YE., and ALIMOV, P. I., Institute of Organic and Physical Chemistry imeni A. YE. Arbuzov, Academy of Sciences USSR

"Hydrolysis of N-Phosphorylated Imidohydantoins"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1789-1791

Abstract: The article describes results of a study of the hydrolytic stability of some N-phosphorylated imidohydantoins of the general formula



- (I) $R' = R'' = H$, $R''' = R'' = H$;
 (II) $R' = Ph$, $R'' = H$, $R''' = R'' = H$;
 (III) $R' = R'' = R''' = H$, $R'' = H$;
 (IV) $R' = R'' = R''' = H$, $R'' = H$;
 (V) $R' = H$, $R'' = Ph$, $R''' = R'' = H$.

1/2

USSR

A
UDC 681.34:621.383.4

ALIMOV, KH. R., KARPOV, YU. K., and KURNOSOV, V. G.

"A Photoelectric Angle-to-Code Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrastoy, Tovarnyye Znaki, No 4, 1970, p 102, patent No 260980, filed 21 Jun 68

Abstract: This Author's Certificate introduces a photoelectric angle-to-code converter which contains a code disc, light source, photo-pickups, and a reversible pulse counter. As a distinguishing feature of the patent, conversion error is reduced by adding an auxiliary photopickup with output connected through an amplifier to the input of an auxiliary reversible counter whose output is connected through a correction pulse shaper to the inputs of the main reversible counter.

Acc. Nr: **AP0047251**

Ref. Code:

PRIMARY SOURCE: Urologiya i Nefrologiya, 1970, Nr

PP **56-59**

UR 0606
1

A

THE RESISTANCE OF GONOCOCCI TO PENICILLIN

A. M. Golosovker, K. K. Soina, Kh. A. Alimov, S. A. Mezhlumov

Summary

The authors studied the resistance of 52 strains of gonococci obtained from 44 patients suffering from various forms of gonorrhea. The highest resistance (to 1 to 2 Units of penicillin per 1 ml of the medium) was noted in the strains of gonococci isolated from the patients suffering from chronic gonorrheal urethritis, refractory to penicillin therapy.

Penicillin resistance of gonococci in 5 patients who failed to be cured with bicillin-5 (total dose 1,200,000 Units) proved to be from 2 to 10 times greater than before administration of bicillin.

1/1

REEL/FRAME
19790758

D.I 2

Psychiatry & Psychology

USSR

UDC 616.893-008.452.4

ALIYEV, KH. A., and SIGOBDSKOV, I. SH., Chair of Psychiatry, Tashkent Institute for the Advanced Training of Physicians

"Oneiroid Syndrome in Some Acute Exogenous-Organic Psychoses"

Moscow, Zhurnal Neuropatologii i Psikhiatrii-Organic Psychoses"

Korsakov, Vol 73, Vyp 1973, pp 1208-1213

Abstract: Seventy-three patients with acute alcoholic, rheumatic and traumatic psychoses accompanied by oneiroid syndrome were observed. Two variants of the syndrome in alcoholic psychoses are described, differing as to whether delirium and hallucinations preceded the oneiroid onset, while three are found in traumatic psychoses, differing in the time between the trauma and the beginning of the psychoses. In all cases the oneiroid state was characterized by fewer catatonic states and dreamlike symptoms than in schizophrenia. The Kandinsky-Clerambault syndrome was rudimentary. Vegetative vascular, vestibular and psychosensory disturbances, as well as hallucinations, were important. In these cases the oneiroid state as a rule appeared after the disease had progressed considerably, when there was a tendency to organic personality changes.

1/1

USSR

UDC 632.95

TULYAGANOV, S. R., ALIMOV, E., KHASANOV, S. A., KHIKMATOV, A., KAMILOVA, R. M., and RAKHIMOV, A. A., Institute of the Chemistry of Plant Materials, Academy of Sciences Uzbek SSR; and Institute of Experimental Biology of Plants, Academy of Sciences Uzbek SSR

"Herbicides"

USSR Author's Certificate kl. [expansion unknown] A 01 n 9/02, No 338, 207, Filed 14 Oct 70, Published 12 June 72 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7N695 by T. A. Belyayeva)

Translation: To control weeds during the planting of cotton, it was suggested to use phenyl compounds such as $\text{PhN}(\text{COMe})\text{CH}_2\text{CH}_2\text{OC}_6\text{H}_4\text{Cl}-4$ (I) which have the active groups β -acetoxyethylaceanilide and $p\text{-ClC}_6\text{H}_4\text{OH}$. Compound (I) is almost completely lethal to amaranth and purslane in doses of 10 Kg/Lectare but is not toxic to the cotton.

USSR

ALIMOV, A. L., BUSLAYEV, V. S., Vestnik Leningradskogo Universiteta, No. 1,
Jan 72, pp 5-14

independent of x since it was essentially equivalent to the traditional representation and in which the kernels Q are defined by various explicit expressions, is generalized to the case of variable coefficients a . It is shown that there is strong convergence of the operator defined by the kernel from the right side of (2) to the resolvent operator of the Cauchy problem for equation (1). The expressions thus arising are written in a convenient fashion using the terminology of Riemann space.

2/2

USSR

UDC 517.9

ALIMOV, A. L., BULAYEV, V. S.

"On a Continuity Integral for a Second-Order Parabolic Equation"

Leningrad, Vestnik Leningradskogo Universiteta, No. 1, Jan 72, pp 5-14

Abstract: The Cauchy problem for the second-order parabolic equation

$$\frac{\partial u(x, t)}{\partial t} = (A, \nabla)u + (b, \nabla)u + cu, \quad x \in R^n, \quad t \geq 0, \quad (1)$$

is discussed, where $A = A(x, t)$ is a matrix function of order n , $b = b(x, t)$ is a vector function, and $c = c(x, t)$ is a numerical function. $G(x, t | y, \tau)$ is used to denote Green's function of the Cauchy problem, and it is noted that the function G can be represented in the form of a continuity integral over a region generated by the higher-order terms of equation (1). In the present paper the formula

$$G(x, t | y, \tau) = \lim_{n \rightarrow \infty} \left(\dots \int_{t_n}^t dx_1 \dots dx_n \right) G(x_n, t_n | x_0, \tau) \quad (2),$$

which was previously obtained only for higher coefficients of equation (1).

2/2 032

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INVESTIGATION OF THE EQUILIBRIUM AND STABILITY OF A PLASMA HELIX IN A BETATRON MAGNETIC FIELD IN A VACUUM OF 0.000005 MM HG. THE EQUIPMENT EMPLOYED CONSISTED OF THE VACUUM AND MAGNETIC SYSTEMS, A MAGNETIC PROBE, A ROGOVSKII COIL, A DISCHARGER, AN ACTUATOR, A CAPACITOR BANK, AND A RECTIFIER. OSCILLOGRAMS SHOWING THE FORMATION AND OSCILLATIONS OF THE PLASMA HELIX AS A FUNCTION OF THE MAGNETIC FIELD STRENGTH FOR EACH HALF PERIOD OF OSCILLATION ARE PRESENTED. IT IS SHOWN THAT THE MAGNETIC FIELD OF THE PLASMA HELIX DECREASES WITH DECREASING EXTERNAL MAGNETIC FIELD, AND THAT THE HIGH FREQUENCY OSCILLATIONS ARE RAPIDLY DAMED DUE TO OHMIC HEATING OF THE PLASMA HELIX. FACILITY: AKADEMIIA NAUK UZBEKSKOI SSR, FIZIKO TEKHNIЧЕСKII INSTITUT, TASHKENT, UZBEK SSR.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE 2000/10
TITLE--INVESTIGATION OF THE INJECTION PROCESS OF A PLASMA HELIX IN A
TRANSVERSE MAGNETIC FIELD -U-
AUTHOR-(03)-GAZIYEV, U.KH., UMAROV, G.YA., ALIMOV, A.K. A
CCOUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK UZBEKSKOI SSR, IZVESTIYA, SERIYA
FIZIKO-MATEMATICHESKIH NAUK, VOL. 14, NO. 1, 1970, P. 75-77
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--TRANSVERSE MAGNETIC FIELD, PLASMA INJECTION, BETATRON,
OSCILLATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1253 STEP NO--UR/0166/70/014/001/0075/0077
CIRC ACCESSION NO--AP0124904
UNCLASSIFIED

USSR

UDC: 621.396.6-181.5(088.8)

GRIGOR'YEV, A. N., TIMOFEYEV, B. I., ALIMKIN, N. S.

"A Device for Making Microcircuits"

USSR Author's Certificate No 277895, filed 3 Mar 69, published 19 Nov 70
(from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V159 P)

Translation: This Author's Certificate introduces a device for making microcircuits. The device contains a substrate-feeding mechanism, a mechanism for coating the substrates with cement, a mechanism for step-feeding the film, and a mechanism for shaping the current-conducting elements of the microcircuit. In order to increase the work productivity of the device, the mechanism for shaping the current-conducting elements of the microcircuit is made in the form of a hollow punch set with a feed-through channel which is open to the inner cavity of a cylindrical punch holder which is fitted with a spring-loaded piston. A locator made in the form of a spring-loaded lever fits into a slot in the piston rod.

1/1

USSR

UDC 621.3.049.75

GRIGOR'YEV, A. N., TIMOFEYEV, B. I., ALIMKIN, N. S.

"A Device for Making Microcircuits"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 25, Soviet Patent No 277895, class 21, filed 3 Mar 69, published 5 Aug 70, p 53

Translation: This Author's Certificate introduces a device for making microcircuits which contains a mechanism for feeding substrates, a mechanism for coating the substrates with cement, a mechanism for step-feeding the film, and a mechanism for shaping the current-conducting elements of the microcircuit. As a distinguishing feature of the patent, the work productivity of the device is increased by making the device which shapes the current-conducting elements of the microcircuit in the form of a set of hollow punches with a cavity through them which communicates with the inner cavity of a cylindrical punch holder equipped with a spring-loaded piston. A locator made in the form of a spring-loaded lever fits in a slot in the piston rod.

1/1

USSR

UNC 577.1:025.773

IKRAMOV, L. T., ALIMKHANOV, D. A., and MURATOV, M. S.

"Purification of Cellulose in the Study of High-Speed Material"

V sb. Materialy Vsesoyuzn. nauchn. konferentsii, 1975, t. 100 - Izhiva na zhiznnyy. V. I. Lenin. Tashkent, 1975, 100 sevl. in-t. 100. (Materials of the Anniversary Conference in Celebration of the 100th birthday of V. I. Lenin, Tashkent, Pharmaceutical Institute -- collection of Vol. 1). Tashkent, 1975, pp. 248-250 (from "Zhiznnyy" 1975, No 3, Vol. 71, Abstract No. 100000).

Translation: Separation of extracts by thin layer chromatography on silica gel is essential for the unequivocal identification of the products (S,G,L-triisoprenyl compounds) in whole leaf tissue.

A. Index

USSR .

ALIMBEKOVA, M. G., and GORYACHEV, V. V., Zashchita Rasteniy, Vol 16, No 11, 1971, pp 19-20

of Khar'kovskaya 46 were also strongly infected with yellow rust, a disease that had not occurred before in Gor'kiy Oblast'. Experiments with the planting of seeds of Gor'kovskaya 46 that had been seeds of the large and medium fractions were affected by the disease 2-3 times less frequently than plants grown from small seeds (the ratio of infected plants was 9-11 and 24%, respectively).

USSR

UDC 632.938

ALIMBEKOVA, M. G., and GORYACHEV, V. V., Docents, Gor'kiy Agricultural Institute

"The Spread of New Aggressive Races of Fungi Should be Prevented"

Moscow, Zashchita Rasteniy, No 11, 1971, pp 19-20

Abstract: The race of smut that occurs in Gor'kiy Oblast' infects only soft varieties of spring wheat. In 1959 test planting of the hard variety of wheat Khar'kovskaya 46 was begun in Gor'kiy Oblast', using seeds that were imported into Gor'kiy Oblast' from other parts of the USSR. Together with these seeds, a new race of smut was brought in, which affected crops of Khar'kovskaya 46. Experimental infection of a number of standards varieties of wheat as well as of the varieties Gor'kovskaya 20 and Khar'kovskaya 46 was carried out by using the new race of smut and the local race of this fungus collected from Khar'kovskaya 46 and Gor'kovskaya 20, respectively. The local race was highly virulent for soft wheat in the tests, while the new race, although its degree of virulence could not be determined precisely by infecting the standards, was highly aggressive toward hard wheat and to a lesser extent towards soft wheat. Standards recommended by V. I. Krivchenko for tests on spring wheat in Novyy Metod Differentsiatsii Ras Pyl'noy Golovni (A New Method for the Differentiation of Races of Smut), Kishinev, 1967, were used. Crops
1/2

USSR

MELIYEV, A., et al., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 34-37

the disease was usually accompanied by a pronounced hemorrhagic syndrome and had a lethal outcome in the majority of cases. The virulence of the causative factor was apparently increased in cases of transmission from one person to another. The mechanism of infection in such cases also presumably contributed to the increased severity of the disease.

•USSR

MELIYEV, A., et al., Meditsinskiy Zhurnal Uzbekistana, No. 1, Jan 73, pp. 35-38

against a background of pronounced toxicosis. A hemorrhagic rash was observed in 90% of cases and hemorrhages in the mucosa occurred in 58% of cases. Rose-bleeds, gastric hemorrhages, intestinal hemorrhages, uterine hemorrhages, bleeding of the gums, and bleeding from the ears occurred in 69, 41, 65, 53, 68, and 3% of cases, respectively. In more than 50% of cases the hemorrhages were profuse, particularly those from the gastro-intestinal tract. Some patients developed a meningeal syndrome, presumably because of cerebral hemorrhages. In the majority of cases, hypochromic anemia was observed in the peripheral blood. Thrombocytopenia occurred in 20% of cases. On the other hand, the coagulability of the blood, the duration of blood flow, and the prothrombin level remained unchanged. Recovery took place within 2-4 weeks. Death occurred on the 5th-9th day of the disease in connection with extensive internal hemorrhages that were in some cases accompanied by microthrombi. Most cases of death were in Jan-Jul. The high lethality from hemorrhagic fever in Uzbekistan is due to positive diagnosis of the disease in severe form only and also to the fact that patients are transported over distances of 20-40 km in the acute hemorrhagic stage. A specific characteristic of this disease in Uzbekistan is its contagiousness; 3% of the patients became infected as a result of contact with other persons who have the disease. In the manner of transmission,

2/3

USSR

MELIYEV, A., MAKSUMOV, S. S., and ALIMBAEV, E., Uzbek Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"Clinical and Epidemiological Characteristics of Hemorrhagic Fever in Uzbekistan"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 35-38

Abstract: Hemorrhagic fever currently continues to be recorded in Uzbekistan every year, causing tens of lethalties. In 1950-69 approximately 400 foci of this disease were found in nine oblasts of the Uzbek SSR. As a rule, infections occur in rural regions among persons whose work brings them close to natural foci of the disease or who come into contact with tick-infested cattle. In 64% of cases of the disease, attachment of ticks preceded the infection, while in 37% of cases of patients infected in the course of agricultural work, attachment of ticks was not observed. The incidence is highest in June-July, while sporadic infections occur throughout the year. The seasonal curve of the incidence coincides with that of the prevalence of the ticks *Hyalomma andersoni* and *Hyalomma plumbeum turanicum* which harbor and transmit the virus. Cattle are infested throughout the year with ticks that transmit the disease. From the cases studied, 64% were acute, 30% of medium intensity, and 6% light. On the 3rd-4th day of the disease, hemorrhagic phenomena developed in 94% of the patients

1/3

Glass and Ceramics

USSR

UDC (564.19+546.23+546.56):666.1

ALIMBARASHVILI, N. A., and BAYDAKOV, L. A., Leningrad State University

"Properties of Arsenic-, Selenium-, and Copper-Based Glasses"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2108-2111

Abstract: Measurements were made of the index of refraction, the threshold of light absorption, and the density of arsenic-, selenium-, and copper-based glasses. The samples were x-ray amorphous. Plots show the relationships of density d , index of refraction N , polarizability α , threshold of light absorption $\lambda_{1/2}$, and Lanzheven (transliterated) diamagnetism χ_d to composition for experimental results. Calculated results for N , α , and χ_d agree closely with experimental results. The basic composition was determined as CuAsSe_2 .

2/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
 CIRC ACCESSION NO--AP0116648
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEPENDENCE OF LUMINESCENCE AND
 ABSORPTION OF TITLE DYES ON THEIR STRUCTURE VARIATION WAS INVESTIGATED.
 THE ABSORPTION MAX. AND LUMINESCENCE SPECTRA, THE INTENSITIES OF
 LUMINESCENCE, AND THE ABSORPTIVITIES WERE MEASURED FOR ETCH SOLNS. OF
 PHENOXAZINE, 3H,PHENOXAZIN,3,ONE (I), AND OF 12 OTHER DYES DERIVED FROM
 I (SUBSTITUENTS ON I GIVEN): 8,9,CH:CHCH: CH, 7,DET, 7,NH SUB2,
 1,2,CH:CHCH:CH,7,NME SUB2, 1,2,CH:CH CH:CH,7,NET SUB2, 2,OH, 2,NH
 SUB2,7,NPOSITIVE H SUB3,8,9,CH:CHCH:CH, 7,NH SUB2,8,9,CH:CHCH:CH,
 1,7,ME(NME SUB2), 1,7,ME(NH SUB2), 1,7, OH(NH SUB2). FROM THE RESULTS,
 CONCLUSIONS WERE DRAWN ON THE STRUCTURE OF PHENOXAZINE DYES. ALL THE
 STUDIED COMPOS. EXHIBITED INDICATOR PROPERTIES; DEPENDING ON THE PH OF
 THE MEDIUM THEY CHANGED NOT ONLY THEIR COLOR BUT ALSO THEIR
 FLUORESCENCE.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--LUMINESCENCE AND STRUCTURE OF PHENOXAZINE DYES -U-
AUTHOR-(04)-VACLAV, S., GOLOVINA, A.P., ALIMARIN, I.P., ZOROV, N.B.
COUNTRY OF INFO--USSR
SOURCE--VESIN. MOSK, KHIM. 1970, 11(1), 74-8
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS
TOPIC TAGS--LUMINESCENCE, DYE, MOLECULAR STRUCTURE, CHEMICAL INDICATOR

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1183 STEP NO--UR/0189/70/011/001/0074/0078
CIRC ACCESSION NO--AP0116648
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0125760

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF A NEW PD-H REF.

MICROELECTRODE IS SUGGESTED FOR TITRIMETRIC ULTRAMICRODETNS. THE MICROELECTRODE CONSISTS OF A PD WIRE, 0.2-0.3 MM THICK AND 10 MM LONG, WHOSE END (2-3 MM) IS PALLADIZED ELECTROLYTICALLY IN 0.3-0.5 PERCENT PDCL SUB2 IN 1N HCL. THEN THE PD IS SATD. WITH H IN 2N H SUB2 SO SUB4. POTENTIOMETRIC DETNS. OF 10 PRIME NEGATIVE9-10 PRIME NEGATIVE8 G OF SOME ELEMENTS, FE PRIME2 POSITIVE, CR PRIME6 POSITIVE, ZN PRIME2 POSITIVE, IN PRIME3 POSITIVE CAN BE CARRIED OUT BY THE OXIDN. REDN. AND PPTN. METHODS FROM A VOL. OF 3-4 MU L. FACILITY: INST. GEOCHEM. ANAL. CHEM., MOSCOW, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ULTRAMICROMETHODS OF CHEMICAL ANALYSIS. 12. REFERENCE PALLADIUM
HYDROGEN MICROELECTRODE FOR TITRIMETRIC DETERMINATIONS -U-
AUTHOR-(02)-ALIMARIN, I.P., PETRIKOVA, M.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 213-15

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL ANALYSIS, PALLADIUM, METAL ELECTRODE, HYDROGEN,
POTENTIOMETRIC TITRATION, ZINC, IRON, CHROMIUM, INDIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/2180

STEP NO--UR/0075/70/025/002/0213/0215

CIRC ACCESSION NO--AP0125760

UNCLASSIFIED

Acc. Nr.

AP0044499

Abstracting Service: 4-70
CHEMICAL ABST.

Ref. Code

NE 0000

85948z Neutron activation analysis of rare earth impurities in metallic uranium. Almarin, L. P.; Miklishanskii, A. Z.; Yakovlev, Yu. V. (V. I. Vernadskii Inst. Geochem. Anal. Chem., Moscow, USSR). J. Radioanal. Chem. 1970, 4(1), 45-51 (Eng).

A method with a sensitivity of 2×10^{-7} – 1×10^{-10} has been developed for detg. Yb, Ho, Dy, Gd, Eu, Sm, and La impurities in metallic U by means of neutron activation. The method is based on preliminary chromatographic sepn. of the total amt. of rare earth elements from U by passing the soln. in H_2SO_4 through KU-2 cation exchange resin and eluting the traces of U retained by the resin with a soln. of ascorbic acid. The rare earth impurities are then eluted from the resin with 4-5N HCl, evapd., and irradiated for 20 hr with a neutron flux of 1.2×10^{13} neutrons cm^2 -sec. Subsequently the traces of the rare earth elements are copptd. with $Fe(OH)_3$, dissolved in concd. HCl and sepd. from the Fe and other impurities by passing the soln. through Dowex IX8 anion exchange resin in the chloride form. The individual rare earth elements are then sepd. from each other by using KU-2 cation exchange resin and a soln. of ammonium α -hydroxyisobutyrate as the eluant.

RCDM 2

E 6

REEL/FRAME

19771122

Acc. Nr.

AP0044480

Abstracting Service:
CHEMICAL ABST.

4-70

Ref. Code

NE0000

85947y Neutron activation analysis of rare earth impurities in europium oxide. Alimarin, L. P.; Miklishanskii, A. Z.; Yakovlev, Yu. V. (Vernadskii Inst. Geochem. Anal. Chem., Moscow, USSR). *J. Radioanal. Chem.* 1970, 4(1), 75-80 (Eng)

A neutron activation method for detg. Yb, Dy, Ho, Sm, and La impurities in Eu oxide with sensitivities of 10^{-4} - $10^{-7}\%$ is described. The method is based on a preliminary concn. of the rare earth elements by reducing Eu(III) with Zn to Eu(II), and sepg the trivalent rare earth elements by extn. chromatog. After neutron irradiation, the individual radioisotopes of the rare earth elements are sepd. by using KU-2 cation exchange resin and ammonium α -hydroxyisobutyrate soln. as the eluant. RCDM

E.D.

REEL/FRAME
19771103

USSR

ALIMARIN, I. P., et al., Vestnik Moskovskogo Universiteta, Seriya II -- Khimiya, Vol 11, No 5, Sep-Oct 70, pp 568-572

of thiocyanate ion concentration, aqueous phase acidity, and metal concentration. Chemical analysis data, as well as results obtained by the equilibrium shift method, indicate that in the organic phase the gallium-to-thiocyanate ion ration is 1 : 3.

Extraction and Refining

USSR

UDC 543.432

ALIMARIN, I. P., BOL'SHOVA, T. A., and YERSHOVA, N. I., Chair of Analytical Chemistry

"Gallium Extraction With Tri-n-butyl Phosphate From Ammonium Thiocyanate Solutions"

Moscow, Vestnik Moskovskogo Universiteta, Seriya II -- Khimiya, Vol 11, No 5, Sep-Oct 70, pp 568-572

Abstract: The article describes results of a study of the conditions and mechanism of gallium extraction with tri-n-butyl phosphate from ammonium thiocyanate solutions. Microgram quantities of gallium were determined photometrically with 1-(2)-pyridylazoresorcinol as the reagent, and milligram quantities were determined complexometrically. The thiocyanate ion and chloride ion concentrations were determined argentometrically, and the concentration of chlorides in the presence of thiocyanate ions was determined by a method based on the oxidation of thiocyanate ions with hydrogen peroxide in an alkaline medium. The extraction of gallium was studied as a function

1/2

USSR

UDC 542.61+546.631

LITVINCHEVA, A. S., FADEYEVA, V. I., and ALIMARIN, I. P., Moscow State University imeni M. V. Lomonosov

"Heptylphosphoric Acid Tetraethyl Diamide Extraction of Scandium, Thorium and Zirconium From Perchloric Acid Solutions in the Presence of Thiocyanate Ion"

Moscow, IAN SSSR, Seriya Khimicheskaya, No 9, Sep 70, pp 1,935-1,940

Abstract: Heptylphosphoric acid tetraethyl diamide $C_7H_{15}OP(O)[N(C_2H_5)_2]_2$ (HPADA) in benzene was used to extract scandium, thorium and zirconium from perchloric acid solutions. An investigation of extraction as a function of the concentration of hydrogen ions in the aqueous phase showed that optimum extraction of Sc is observed at pH of 1-3, while optimum Th extraction is at pH of 1.7-3. Extraction of zirconium thiocyanates at concentrations of 0.15-2.5 M $HClO_4$ remains constant, with somewhat of a reduction when the concentration is raised to 4 M. A further increase of perchloric acid concentration in the aqueous phase causes precipitation of a yellow substance -- products of decay, polymerization and isomerization of thiocyanic acid. Graphic and analytical data showed existence of the following complexes in the organic phase: $Sc(SCN)_3 \cdot 3HPADA$ (pH 1), $Sc(OH)(SCN)_2 \cdot 3HPADA$ (pH 2.5), $Th(SCN)_4 \cdot 2HPADA$ and $Zr(OH)_2(SCN)_2 \cdot 2HPADA$.

1/1

2/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0132409
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONTINUOUS DISCHARGE OF A SLAG OF
COMP. FEO 28.5-36.3, CAO 11.87-17.9, AND SIO SUB2 20.6-22.1PERCENT
LEADS TO SMOOTHER OPERATION OF THE SHAFT FURNACE, IMPROVES THE
FUNCTIONING OF THE TUYERES OPPOSITE THE SLAG TAPPING HOLE, SO THAT THE
FURNACE BEINGS TO OPERATE ACTIVELY OVER THE WHOLE SECTION, AND
CONSIDERABLY IMPROVES THE WORKING CONDITIONS. WITH LIME SLAG,
CONTINUOUS OPERATION INCREASES THE RATE OF SMELTING BY 7 TON-M
PRIME2-DAY, REDUCES THE AMT. OF DUST, AND REDUCES FUEL CONSUMPTION.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CONTINUOUS DISCHARGE OF SLAG FROM A LEAD FURNACE AT THE
ELEKTROTSINK PLANT -U-
AUTHOR-(03)-SAUTIYEV, T.D., ALIKOV, A.B., BINDER, S.I.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(4), 42-4

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--LEAD ORE, METALLURGIC PLANT, EXTRACTIVE METALLURGY,
METALLURGIC SLAG, METALLURGIC FURNACE, SMELTING FURNACE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3005/0116

STEP NO--UR/0136/70/043/004/0042/0044

CIRC ACCESSION NO--AP0132409

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115752

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE REACTION OF NA PHOSPHATE, AMMONIUM MOLYBDATE, AND MO(V) AT A TOTAL COMPD. CONC. OF N TIMES 10^{-3} M A BLUE MOLYBDOPHOSPHORIC ACID (I) IS FORMED AT A VARIABLE MO(VI):MO(V) RATIO. AT A MOLYBDATE CONC. OF N TIMES 10^{-4} M THE REGION OF MAX. COLOR DEVELOPMENT IS AT PH 1.6-2.3 AND AT A CONC. OF MOLYBDATE N TIMES 10^{-3} M THE RANGE IS PH 0.65-0.9. IN THE LATTER CASE MOLYBDATE CONC. IS INSUFFICIENT TO FORM A HETEROPOLY COMPLEX. THREE TYPES OF I ARE FORMED: THE 1ST WITH A P TOTAL MO RATIO OF 1:6 AT THE TOTAL SUM OF COMPONENTS OF 2 TIMES 10^{-3} M, THE 2ND WITH A 1:9 RATIO AND COMPONENT CONC. 4.0 TIMES 10^{-3} M, AND THE 3RD WITH A 1:13 RATIO AND THE TOTAL COMPONENT CONC. OF 4.8 TIMES 10^{-3} M. THE AV. VALENCE OF MO DURING I FORMATION IS 5.84 WHICH REPRESENTS A MO(VI)-MO(V) RATIO OF 10:2. ALL SOLNS. HAVE MAX. ABSORBANCE IN THE 830 NM REGION. FACILITY: URAL STATE UNIV., SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FORMATION OF BLUE MOLYBDOPHOSPHORIC ACID IN THE ABSENCE OF A
REDUCING AGENT -U-
AUTHOR-(03)-BARKOVSKIY, V.F., ALIKINA, N.A., SHVAREV, V.S.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 341-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PHOSPHORIC ACID, MOLYBDENUM COMPOUND, METAL COMPLEX COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1944 STEP NO--UR/0075/70/025/002/0341/0345
CIRC ACCESSION NO--AP0115752
UNCLASSIFIED

USSR

UDC: 533.6.013.42

SMIRNOV, A. I., et al, Doklady Akademii nauk SSSR, No 6, 1973,
pp 1314-1316

the rod and the plate, the damping may be neglected under practical conditions; for the cylindrical shell, it is an important factor, especially for long and thick shells.

2/2

USSR

UDC: 533.6.013.42

SMIRNOV, A. I., ALIKHASHKIN, Ya. I., and MIKHAYLENKO, V. M.

"Importance of Aerodynamic Damping in Flutter Problems of Three-Layer Panels and Circular Cylindrical Shells"

Moscow, Doklady Akademii nauk SSSR, No 6, 1973, pp 1314-1316

Abstract: Investigation of the part played by aerodynamic damping in flutter problems has hitherto been slight even for single-layer panel structures; the purpose of the present paper is, therefore, to discuss aerodynamic damping in connection with three-layered rods, plates, and shells and their fluttering. This discussion is based on the elastic equilibrium equations obtained in earlier papers (e.g., E. I. Grigolyuk, et al, Izv. AN SSSR, Mekhanika i mashinostr., No 1, 67, 1964). The analysis of the present paper begins with the equation of equilibrium for a three-layer plate, shows how the equation is simplified for the case of a three-layer rod, and gives the equation for a three-layer circular cylindrical shell. An algebraic equation of the sixth degree is obtained and is solved in combination with the condition for a nontrivial solution. In the case of the plate, it is assumed that a supersonic gas flow acts on one side of it. The calculations show that for $1/2$

USSR

UDC 577.3

ALIKHANYAN, M. A., MARTIROSOV, S. M., and PETROSYAN, L. S., Yerevan Institute of Physics

"Determination of the Movement of Hydrogen, Potassium, and Sodium Ions Across Bacterial Membranes Using Cation-Selective Electrodes"

Yerevan, Biologicheskii Zhurnai Armenii, No 5, 1973, pp 27-30

Abstract: The proposed method is based on the fact that the surface:volume ratio in a bacterial suspension is substantial ($\sim 10^5 \text{ cm}^{-1}$) and even slight changes in ion transport can be readily detected from change in their activity in the medium. An experiment was performed with *Streptococcus faecalis* to reveal the relationship between the transport of hydrogen and sodium ions and the absorption of potassium ions. During the first 1-1/2 hours there was no glucose in the solution and, accordingly, no energy-dependent escape of H^+ from the bacteria, although the potassium ions left the cells fairly rapidly. The addition of glucose to the medium resulted in the bacteria releasing H^+ in exchange for K^+ . However, when the microorganisms accumulated high intracellular potassium concentrations by the third hour, further energy-dependent release of H^+ became necessary in order to maintain this high concentration for 3 to 4 hours longer.

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USSR

ALIKHANYAN, A. I., and GERSHTEYN, S. S., et al

"Electron Beam with Momenta up to 46 Bev/Sec on the Serpukhov Accelerator"

Moscow, Atomnaya Energiya, Sep 73, pp 181-187

Abstract: An electron beam with a momentum $p \leq 46$ Bev/sec was obtained on the Serpukhov proton synchrotron using a target (source of protons from the decay $\pi^+ \rightarrow 2\gamma$) and a converter placed in the magnetic field of the accelerator. The intensity of the beam for $p = 26-46$ Bev/sec and $\Delta p/p = \pm 3\%$ varies from about $3 \cdot 10^4$ to 10^6 electrons in a pulse width of approximately 2 seconds for 10^{12} protons accelerated up to 70 Bev. Hadron and muon impurity in the beam remained less than 1% for p varying from 26 to 40 Bev/sec and increased to 3.6% for $p = 45.5$ Bev/sec. Electrons with $p \leq 26$ Bev/sec were generated by decreasing the energy of the accelerator. A beam of bremsstrahlung photons "labelled" by energy in the interval $E_\gamma = 12-40$ Bev was also obtained. The article includes nine figures. There are 13 references.

USSR

ALIKHANYAN, A. I., BEINYAKOV, E. S., LORIKYAN, N. P., MARHARYAN, K. Zh., and SHIKHLYANOV, K. K.

"A Study of Transition Radiation in Plastic Foam"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 17,
No 9, 5 May 73, pp 453 - 456

Abstract: Recent studies have indicated the great utility of transition radiation in those high-energy regions where traditional methods of particle identification encounter great difficulties. However, there is still a lack of systematic studies of radiation spectra in porous materials. The authors used the Yerevan electron accelerator to study radiation in the frequency band 13 - 130 kev. Electrons with energies of 1 - 3.75 Gev were used to produce photons detected by a scintillation counter with a NaI crystal 2 centimeters thick and 7 centimeters in diameter, behind a beryllium salt window 100 microns thick. Differential radiation spectra and curves relating the total number of photons per electron to the characteristics of the plastic were obtained.

1/1

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0127570
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF SEPARATING PARTICLES FROM THE TRANSITION RADIATION WAS SOLVED. A GAMMA DETECTOR OF TOROIDAL FORM WAS USED. CHARGED PARTICLES PASSED THROUGH A CENTRAL OPENING OF THE DETECTOR AND THE PART RADIATION PASSING THROUGH THE OPENING SIMULTANEOUSLY WITH THE PARTICLES WAS NOT REGISTERED. THIS DETECTOR WAS EXAMINED BY ELECTRONS OF 0.4-4 GEV. THE DEVICE WAS ADJUSTED BY A LASER. THE RADIATION WAS REGISTERED IN THE REGION OF H_W IS GREATER THAN OR EQUAL TO 15 KEV FREQUENCIES. THE EFFICIENCY (EPSILON) OF ELECTRON REGISTRATION IS SHARPLY DEPENDENT ON THE ELECTRON ENERGY; UNDER THE CONDITIONS USED, EPSILON WAS SIMILAR TO 0.1. BY USING DETECTORS WHICH CAN RECORD GAMMA QUANTA OF LOWER ENERGIES, THE HIGH ENERGY PARTICLES CAN BE REGISTERED WITH EPSILON SIMILAR TO 1. THE DETECTOR CAN BE USED FOR IDENTIFYING PARTICLES OF DIFFERENT MASSES WITH A HIGH RESOLUTION POWER IN THE REGION OF GREATER THAN OR EQUAL TO GEV PULSES.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EXPERIMENTAL STUDY OF A DETECTOR OF ULTRAHIGH ENERGY PARTICLES
USING X RAY TRANSITION RADIATION -U-
AUTHOR-(04)-ALIKHANYAN, A.I., ISPIRYAN, K.A., OGANESYAN, A.G., TAMANYAN,
A.G.
COUNTRY OF INFO--USSR
SOURCE--PISMA ZH. EKSP. TEOR. FIZ. 1970, 11(7), 347-9
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--TRANSITION RADIATION, GAMMA DETECTOR, HIGH ENERGY PARTICLE,
CHARGED PARTICLE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2203 STEP NO--UN70386/10/011/11/036/1111
CIRC ACCESSION NO--AP0127570
UNCLASSIFIED

USSR

AVAKYAN, K. M., ALIKHANYAN, A. I., GARIBYAN, G. M., LORIKYAN, M. P., SHEKHLYAROV, K. K.

"Detection of Transient X-Radiation by Means of a Streamer Chamber"

Yerevan, Izvestiya Akademii Nauk Armyanskoy SSR, Fizika, Vol 5, No 4, 1970, pp 267-274

Abstract: A new method is proposed for detecting x-ray transient radiation by means of a streamer chamber with an admixture of Xe. Use of the streamer chamber provides for separate observation of the radiation as well as of the particles, and the presence of Xe provides great efficiency in the detection of photons. It is shown that the average number of transient quanta increases linearly in the electron-energy interval from 1.2 to 2.46 Gev. With the use of foam plastic instead of a layered medium, the efficiency of electron detection with respect to transient radiation equalled 86%.

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- 6/ -

USSR

ALIKHANYAN, A. I. et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61, No 4(10), Oct 71, pp 1273-1275

the measurement accuracy of the new equipment is limited by the optical distortion. A table of corrections for these distortions is provided. Gratitude is expressed to V. N. Semenyushkin, N. I. Novikov, A. F. Pisarev, Yu. V. Kulikov, I. N. Strunov, and I. N. Golutvin for performing the required experiments in the OIYal (Joint Institute of Nuclear Research). The authors are associated with the Yerevan Physical Institute.

USSR.

ALIKHANYAN, A. I., ASATIANI, T. L., AVAKYAN, K. M., CHIROVA, L. A.,
IVANOV, V. A., KRISHCHYAN, V. M., MATEVOSYAN, B. M.

"Measurement Accuracy of Charged Particle Pulses in Wide-Gap
Spark Chambers"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61,
No 4(10), Oct 71, pp 1273-1275

Abstract: The purpose of this article is to show how the accuracy
of these pulse measurements can be improved. Corrections which
must be made to achieve this accuracy are based on results ob-
tained in an earlier paper (A. I. Alikhanyan, et al, 12-vy
Mezhdunarodnaya konferentsiya po fizike vysokikh energii -- Twelfth
International Conference on High-Energy Physics -- Dubna, 1964, 2,
Atomizdat, 1966, p 303) and were derived from new equipment with
better parameters. These involved a reduction in the total delay
time of up to 230 ns for applying the high-voltage pulses to the
chamber, a reduction of up to 2 ± 0.5 ns in the rise time of the
high-voltage pulse, and a high degree of electric field uniformity
at the edges of the chamber through the use of distributed resi-
stances and capacitances. Tables of the characteristics of vari-
ous types of chamber are given. Analysis of the error shows that
1/2

USSR

UDC: None

ALIKHAN'YAN, A. I., BELYAKOV, E. S., GARIBYAN, G. M., LORIKYAN, M. P.,
MARKARYAN, K. Zh., and SHIKHLYAROV, K. K.

"Separation of Ultra-High-Energy Particles by the Radiation Transition Method"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, vol 18,
No 6, 20 September 1972, pp 315-318

Abstract: Detectors of transition radiation in the x-ray frequency range are widely used for identifying high-energy particles in cosmic rays and in large accelerators. This letter gives the results of experiments conducted on transitional radiation occurring in foam plastic of 0.04 g/cm² density with electron energies of 1-4.5 Gev, where it was shown that the use of the streamer chamber method with a foam plastic radiator permitted the separation of particles in the energy range of $\gamma = E/mc^2 > 10^3$ with high reliability. The equipment used for the measurements was the same as that described in an earlier article (A. I. Alikhan'yan, et al, Izv. AN Arm. SSR, Fizika, 5, 1970, p 267), modified to permit observation of the primary electron track, thus easing the procedure. The question of the possibility of separating protons and pi-mesons using this method is also investigated. The authors thank A. Ts. Amatuni for his useful comments.

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USSR

UDC 546.791.6-336

ALIKHANOVA, Z. M., and ELLERT, G. V.

"Uranyl and REE Pentaacetates and Pentapropionates"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 16, No 1, Jan 71, pp 120-124

Abstract: Lanthanum oxide was heated to complete solution in propionic acid and mixed with an aqueous solution of uranyl propionate. After 5-7 days crystals appeared which were then recrystallized from methanol. The following complexes were obtained in this manner: $\text{LnUO}_2(\text{CH}_3\text{COO})_5 \cdot n\text{H}_2\text{O}$ where $\text{Ln} = \text{La}$, Nd , and $n = 2$ or 3 , and $\text{LnUO}_2(\text{C}_2\text{H}_5\text{COO})_5 \cdot n\text{H}_2\text{O}$ where $\text{Ln} = \text{La}$, Nd , Eu , and Ce , and $n = 2$ or 3 . On the basis of molar electroconductivity and cryoscopic determinations it was shown that these complexes were nonelectrolytes. It was proposed that the acids-group serves as a bridge between the uranyl and lanthanide moieties.

ALIKHANOVA, SH II

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 The point of this paper is to demonstrate that the validity of formula (1) requires the linear dependence of x and y on u and v to describe the

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USSR

ABDULAYEV, G. M., et al. Investigation of the mechanism of the origin of the inversion phenomenon in the liquid-crystal phase. *Fiziko-tehnicheskaya optika*, No. 4, 1976, pp. 65-70.

under illumination without external displacement is said to be direct support for the injection mechanism for the origin of inversion. It was established that the inversion velocity increases almost linearly with an increase in the light intensity.

2/2 028 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0101803
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS CONSIDER THE
POSSIBILITY OF A SELF SUSTAINING THERMONUCLEAR REACTION IN A DENSE
PLASMA (IN GREATER THAN OR EQUAL TO 10 TO THE 16TH CU CM). THE PRESSURE
OF THE PLASMA IS CONTAINED BY WALLS AND THE MAGNETIC FIELD ONLY SERVES
TO REDUCE THERMAL CONDUCTIVITY IN A TRANSVERSE DIRECTION. A SOLUTION IS
OBTAINED FOR THE PLASMA BALANCE EQUATION THAT MAKES ALLOWANCE FOR
RADIATION LOSSES ALONG THE MAGNETIC FIELD, AND IT IS SHOWN THAT THERE IS
NO SATISFACTORY SOLUTION ACROSS A UNIFORM MAGNETIC FIELD. THE AUTHORS
DISCUSS THE POSSIBILITY OF A STEADY STATE THERMONUCLEAR REACTION WITH A
NONUNIFORM MAGNETIC FIELD. FACILITY: AKADEMIA NAUK SSSR,
INSTITUT LADERNOI FIZIKI, NOVOSIBIRSK, USSR.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--1900170
TITLE--THE ENERGY BALANCE IN A DENSE FUSION PLASMA CONTAINED BY WALLS

AUTHOR--(03)--ALIKHANDOV, S.G., KONKASHBAEV, I.K., CHEBOTAREV, P.Z.

COUNTRY OF INFO--USSR

SOURCE--NUCLEAR FUSION, VOL. 10, MAR. 1970, P. 13-18

DATE PUBLISHED----MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DENSE PLASMA, PLASMA CONTAINMENT, THERMONUCLEAR REACTION,
HOMOGENEOUS MAGNETIC FIELD, HEAT BALANCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1985/1750

STEP NO--AU/0000/70/010/000/0013/0018

CIRC ACCESSION NO--AP0101803

UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE 10-01-70
CIRC ACCESSION NO--AP0129397
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. SOME 38 CHEM. ANALYSES OF COASTAL
WATERS FROM THE TITLE SERIES IN THE CASPIAN SEA AREA ARE PRESENTED, AND
THE GEOCHEMISTRY OF THESE WATERS IS DISCUSSED.

UNCLASSIFIED

1/2 C10 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MINERALIZATIONS AND SALT ION COMPOSITIONS OF STRATIAL WATERS OF THE
LOWER FORMATION OF THE PRODUCTIVE SERIES ,PK, KS, NKP, OF THE PETROLEUM
AUTHOR--(04)--KAMEDOV, N.I., ALIKHANOV, G.G., DADASHEV, M.N., KASUMOV, K.A.

COUNTRY OF INFO--USSR

SOURCE--AZERB. NEF. PR. 1970, (2), 10-12

DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOCHEMISTRY, GROUND WATER, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3003/0141

STEP NO--UR/04877707-0070070010000000

CIRC ACCESSION NO--AP0129397

UNCLASSIFIED

USSR

UDC 519.3:62-50

ALIFEROV, V. V., and YEGOROV, A. I.

"Optimal Control of Heat Transfer Process"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 4, Jul-Aug 70, pp 30-36

Abstract: A method for obtaining optimal control when there are no limitations on the area of control is illustrated using the example of heat transfer in a homogeneous rod. An integral equation is produced for determination of the optimal control and a method is given which can be used to reduce the solution of the equation to solution of an infinite system of algebraic equations. The method presented in this work can be used without particular difficulty for more general cases as well. However, this requires that the heat transfer equations be linear and the optimality criterion quadratic.

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USSR

ALIBERKOV, B. I.

"Problem of Placement and Algorithm for Determination of Approximate Optimal Plan"

Mat. Analiz i Ego Pril. [Mathematical Analysis and its Applications. Collection of Works], Rostov-na-Donu, Rostov University Press, 1972, pp 141-155 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V606, by the author).

Translation: A single-product problem of placement is studied with upward-convex function of nonlinear expenditures. The concept of the ϵ -approximate solution is introduced, and a theorem is proven on the relationship of solutions to approximate problems (produced by special approximation of the nonlinear portion of the goal function) and the approximate solution of the initial problem. Based on the theorems proven, an iterational algorithm is suggested for approximate solution of the problem (type of "method of branches and bounds"). The convergence of the algorithm is proven, and examples and results of calculations using the BESM-4 and Minsk-22 computers are presented.

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USSR

UDC: 52

ALIBEKOV, B. I.

"An Approximate Method of Solving a Multiple-Extremum Assignment Problem"

Tr. 4-y Zimn. shkoly po mat. programir. i smezhn. voprosam, 1971, vyp. 1
(Works of the Fourth Winter School on Mathematical Programming and Related Problems, 1971, No 1), Moscow, 1971, pp 121-136 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V439)

Translation: A nonlinear nonconvex arrangement problem is considered. A number of exact algorithms have been worked out for problems of this type, based on V. P. Cherenik's method of sequential calculations (RZh-Mat, 1965, 2V410K; 1964, 11V261; 1966, 1V271; 1966, 1V272; 1967, 8V296). This paper proposes an approximate method based on construction of a sequence of locally optimum solutions and selection of the best among them. Data are presented on a program compiled for the BESM-4 computer, and on computer solution of problems presented in RZh-Mat 1967, 8B296. Yu. Finkel'shteyn.

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Acc. Nr.:

AP 0029327

Ref. Code: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 1, pp 20-25

HYGIENIC STANDARDIZATION OF CYCLOHEXANE
AND A MIXTURE OF CYCLOHEXANE AND BENZOL
IN THE ATMOSPHERE

Alibayev, T.S.

The author suggests the maximum one-time and daily average permissible concentration of cyclohexane in the atmosphere to be set at a level of 1.4 mg/m³. The finding was that at the joint presence of cyclohexane and benzol in the air their effect on the human body was a summation of the action of the two substances. The sum total maximum permissible concentration of a mixture of vapours of cyclohexane and benzol in the atmosphere should not exceed one consecutive permissible concentration of each substance when present separately.

7m

REEL/FRAME

19680899

USSR

UDC 668.017.538

ALI-ZADE, Z. I., and MAMEDOV, M. B., Azerbaykzhan Polytechnical Institute

"Study of the Heat Capacity of Nickel-Titanium Alloys in the Area of the Curie Point"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1098-1099

Abstract: The authors studied the temperature dependence of the heat capacity of pure nickel and nickel-titanium alloys containing 2.5 and 5 wt.% Ti. The electrical and magnetic parameters of the alloys were determined. According to the authors' calculations, the maximum error in measurement of heat capacity was $\pm 2.5\%$ with a heating rate of 0.5-1.5 deg/min. The specific heat capacity of the specimens studied has a sharp maximum in the area of the curie point. As the concentration of titanium in the nickel increases, the curie point is displaced toward lower temperatures and the jump in $C_p(t)$ decreases. The anomalous increase in $C_p(t)$ for nickel-titanium alloys at 100-300° apparently results from disordering of spin systems and is a second-order phase transition of the order-disorder type.

1/1

USSR

UDC: 681.142.621(047.1)

ALI-ZADE, G. A. and D'YAKONOV, V. P.

"Using Negative-Resistance Devices in Information-Measurement and Pulse Techniques"

Moscow, Izmeritel'naya tekhnika, No 3, 1972, pp 43-46

Abstract: Some new possibilities in the use of devices, principally of the semiconductor type, with negative resistance, are discussed. The use of such devices leads to the structural simplicity of electronic circuits, increases the rapidity of their action, and improves their parameters. The main matter of the article is devoted to analog-digital converters, which are the most important part of information-measurement systems and are least equipped with negative resistance devices. Under this general heading are discussed analog-digital converters with controlled step-voltage oscillators, converters with nonlinearly varying voltage oscillators, integrating converters, complex systems for information-measurement techniques using negative resistance devices and improving stability through their application.

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USSR

UDC 621.375.6

ALI-ZADE, D. G., D'YAKONOV, V. P., Azerbaydzhan Institute of Petroleum and Chemistry, Baku

"Amplitude Pulse Discriminators Based on Avalanche Transistors"

Moscow, Priory i Tekhnika Eksperimenta, No 2, Mar/Apr 70, pp 108-110

Abstract: The authors describe amplitude pulse discriminators based on avalanche transistors with a minimum discrimination threshold of approximately 20 mV with a threshold overlap factor of several hundred. Methods are described for controlling the discrimination threshold and reducing the discrimination time to 100 nsec. The results of an experimental study of discriminator circuits are given. The discriminators may be used for a pulse duration of the order of a few nsec and higher.

USSR

UDC: 621.373.531

D'YAKONOV, V. P., ALI-ZADE, D. G.

"Pulse Circuits Based on Avalanche Transistors"

Uch. zap. Azerb. in-t nefti i khimii (Scientific Notes of the Azerbaijan
Institute of Petroleum and Chemistry), 1970, ser. 9, No 1, pp 80-82 (from
RZh-Radiotekhnika, No 2, Feb 71, Abstract No 20239)

Translation: The authors discuss relaxation oscillators and sawtooth
voltage generators based on avalanche transistors. Attention is called
to the specific features of avalanche transistor circuits, their simplicity,
short switching time, etc. Bibliography of two titles. R. S.

USSR

UDC: 621.382.3

ALI-ZADE, D. G. and D'YAKONOV, V. P.

"Analysis of the N-Shaped Voltampere Characteristic of an Avalanche Transistor"

Moscow, Radiotekhnika, Vol 26, No 2, 1971, pp 87-91

Abstract: A little-studied aspect of avalanche transistors is the N-shaped input characteristic in the common emitter circuit, which is interesting since its consideration permits a more thorough analysis of already known circuits, and promotes the development of new design principles using this type of transistor. The necessary condition for obtaining the N-shaped characteristic is that the voltage applied to the collector exceed the transistor breakdown voltage, with the base punctured. Analysis of the volt-ampere characteristics is based on the equivalent circuit of the transistor operating under avalanche conditions; a sketch of the circuit is shown. To check the results of their analysis, the authors performed experiments on transistors of the MP39-MP42B series, among others. A table comparing the theoretical and experimental results shows close agreement between the two. It is asserted that special types of these transistors are just as fast as tunnel diodes, and are consequently very promising.

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- 77 -

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900013-6

- ALI-ZADE FILED AS IS

ALIZADE FILED WHERE IT SHOULD BE

USSR

UDC 621.385.632

ALGABINOV, B.YE., KISAYEV, YU. I.

"Use Of Method Of Successive Approximations For Analysis Of Multisignal Operation Of A TWT (Abstract Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1971, Issue 12, p 49 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 44177)

Translation: Use of the method of successive approximations is considered for analysis of the processes in a traveling-wave tube during amplification of several signals with near frequencies. A comparison of the results of the first and second approximations is presented. The limits of applicability of single analytical expressions obtained in a first approximation are evaluated. Particular attention is allotted to an investigation of crossmodulation phenomena. The behavior of the suppression function is analyzed as a function of the level of both signals and for various parameters of dissymmetry. It is shown that with an increase of the amplitude of the signal being suppressed, the effect of the suppression is decreased. The proposed method can be successfully utilized for detection of the high-frequency spectrum at the output of the TWT in the case of amplification of any number of signals with near frequencies. Summary.

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ALGAZINOV, E. K., et al, Elektron. tekhnika. Nauchno-tekhn. sb.
Elektron. SVCh, 1970, Issue 11, p 92

it is possible to achieve an improvement of the ratio signal--CC by an increase of the accelerating voltage up to 4% in comparison with the optimum. Both of these methods are of equal value with respect to maintenance of the output power. Change of the beam current in the limits acceptable in practice does not give a gain in the ratio signal--CC. Summary.

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USSR

UDC 621.385.632

ALGAZINOV, E.K., FEDOSENKO, N.N.

"Experimental Investigation Of Combination Components In TWT (Summary Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn.sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, p 92
(from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A189)

Translation: The dependences are investigated of combination components (CC) in a traveling-wave tube, on the accelerating voltage and current of the beam, both with equal and with different levels of several input signals, in a search for methods of improvement of the ratio signal--CC at the output of the TWT. During simultaneous feeding of several signals to the TWT input, even at extremely low input levels, CC develop if the levels of the input signals do not exceed -10 db from the level of the appropriate saturation; then the CC level at the TWT output does not exceed -25 db from the level of the signals and in a saturation regime amounts to -10 ÷ -16 db. Besides a decrease of the level of the input signals,

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UDC 621.385.652

ALGATINOV, S.K., FEDOSSEVO, N.N.

"Experimental Investigation Of The Amplitude Distortions Of A Multifrequency Signal In A TWT (Summary Of Deposited Manuscript)"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, p 91 (from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A190)

Translation: The nonlinear effects were experimentally investigated which take place in a traveling-wave tube during simultaneous amplification of several signals with different frequencies. To such phenomena there apply first of all a change of the ratio of the signal levels at the output of an amplifier in comparison with their ratio at the input, and compression and mutual suppression of the signals. The dependences were investigated of each of these phenomena, on the performance of the tubes and the amplitude of the input signals. It is established that there is an optimum voltage of the spiral in order to insure minimum suppression and a minimum ratio of levels. These voltages are several percent higher than the voltages corresponding to maximum amplification. The character of the phenomena considered practically does not depend on the beam current. Summary.

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UDC: 621.385.632.001.5

ALGAZINOV, E. K., KLEMENT'YEV, F. M., KITAYEV, Yu. I.

"Analysis of Singularities of the Nonlinear Mode of a Traveling-Wave Tube When a Multiple-Frequency Signal is Amplified"

Moscow, Radiotekhnika i Elektronika, Vol. 16, No 6, Jun 71, pp 1028-1032

Abstract: The method of successive approximations is used to analyze the combination components which arise at the output of a traveling-wave tube when several signals are simultaneously amplified. Simple analytical expressions are found for the case of small frequency differences. The dispersion properties of the system were disregarded, thus limiting the maximum possible frequency spacing between input signals. The results of the analysis are compared with the results of a stricter theory and with experimental data. It is found that the proposed method can yield formulas analogous to those derived when dispersion properties are taken into consideration.

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ALGAZINOV, E. K., Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2224-2227

mean total power of the analyzed intermodulation noise. The variation of the ratio of the signal to the intermodulation product on variation of the mean input power of the noise is then analyzed and plotted graphically. Formulas are obtained permitting investigation of the ratio of the signal to the intermodulation noise during amplification of the useful signal in the presence of a noise signal which can be useful when analyzing the operation of traveling wave tubes in multichannel communication systems.

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UDC 621.385.63

ALGAZINOV, E. K., KITAYEV, YU. I.

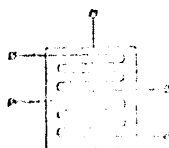
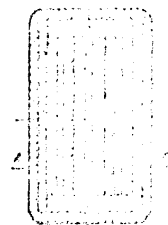
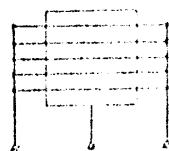
"Study of Joint Amplification of Monochromatic and Noise Signals in a Traveling Wave Tube"

Moscow, Radiotekhnika i Elektronika, Vol 17, No 10, 1972, pp 2224-2227

Abstract: Assuming that an operating signal with a frequency ω_0 and an amplitude E_0 and noise with a spectral density $G(\omega)$ and a band $\Delta\omega = \omega_2 - \omega_1$ is input to a traveling wave tube, a study was made of the case where the signal and noise do not overlap in the frequency range. The frequency difference of the signal and noise is assumed to be such that it is possible not to consider the dispersion and variation of the coupling impedance with frequency, and the noise band is such that within its limits it is possible not to consider the nonuniformity of the frequency characteristic of the tube. By considering that the operating signal at the input has low amplitude (corresponding to the linear amplification region) and using the procedure applied by E. K. Algazinov, et al. [E. K. Algazinov, et al., Radiotekhnika i elektronika, Vol 16, No 6, 1971] to find the components of the high frequency field at the tube output and considering that $n(n-1)$ combinations participate in the formation of the intermodulation noise near the operating signal, an expression is obtained for the $1/2$

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ALFEROV, A. L. et al., USSR Author's Certificate No. 111111



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[illegible]

"An Electrical Device"

Moscow, Otkrytiya, Izvestiya, i neizvestiya dnevniye, 1 August 1964,
No 24, Aug 7, Author's certificate no 21149, 15 April 65, 21 April 65,
68, published 19 Aug 7, p 182

Translation: This Article's invention relates to a transformer, which contains a primary and a secondary. The device is made in the form of a ring of needles of magnetic and ferromagnetic materials, with a current-conducting layer, and is equipped with an exciter. As a distinctive guishing feature of the patent, in order to ensure the intended efficiency and inductance of the exciter, improve the temperature stability of the device and reduce cost, the ends of each needle of the ring are connected to different leads, which may be two or more than two.

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EQUIPMENT
Acoustical & Ultrasonic

UDC 524-8:649

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AL'FTAN, E.A."Ultrasonic Device Of Increased Reliability"

V sb. Materialy nauchn.-tekhn.konf.Leningr.olektrotekhn.in-te svyazi (Materials Of The Scientific-Technical Conference Of The Leningrad Electrical Engineering Institute Of Communications--Collection Of Works), Issue 4, Leningrad, 1971, pp 52-55 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3A315)

Translation: The shortcomings are considered of existing ultrasonic equipment for sonication of liquid media. It is noted that a typical cause of the breakdown of this equipment is the rapid fatigue breakdown in the area of connection of the magnetostrictor with the membrane, and also cavitation damage of the membrane surface during operation in aggressive media. An ultrasonic device is proposed for sonication of liquid media by the transmission in them of acoustic energy from the magnetostrictor by a massive ultrasonic wave, free from the shortcomings enumerated. It is shown that a device with a waveguide operates reliably in aggressive media and in melts at high temperature, and makes it possible to conduct hot lead-sheathing of steel. A scheme of the device is given.

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